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(54) Heated storage container

(57) A heated storage container particularly for containing materials, such as asphalt or tarmacadam, for patching roads, footpaths etc. The storage container comprises a housing (10, 11, 12, 13) adapted to be located on the plank bed of a truck or trailer and at least one heater located beneath the housing for heating material contained in the housing.

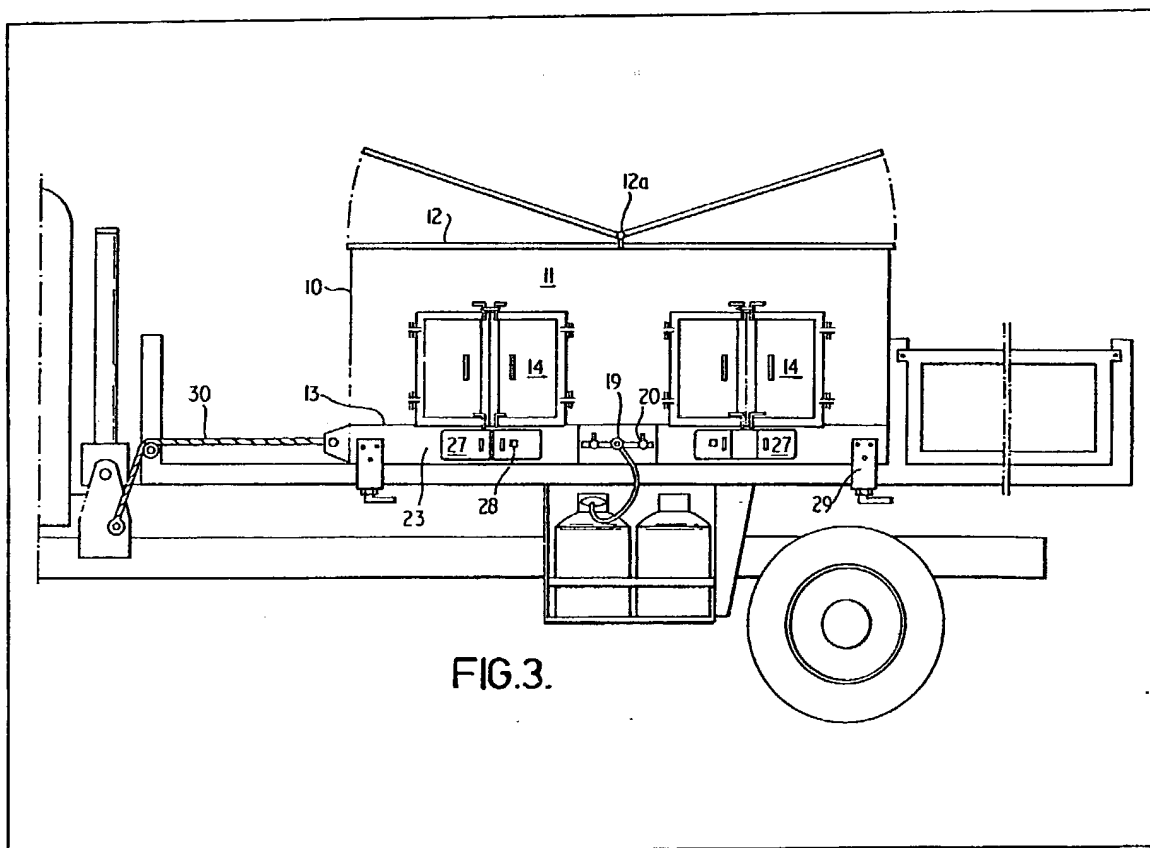


FIG.3.

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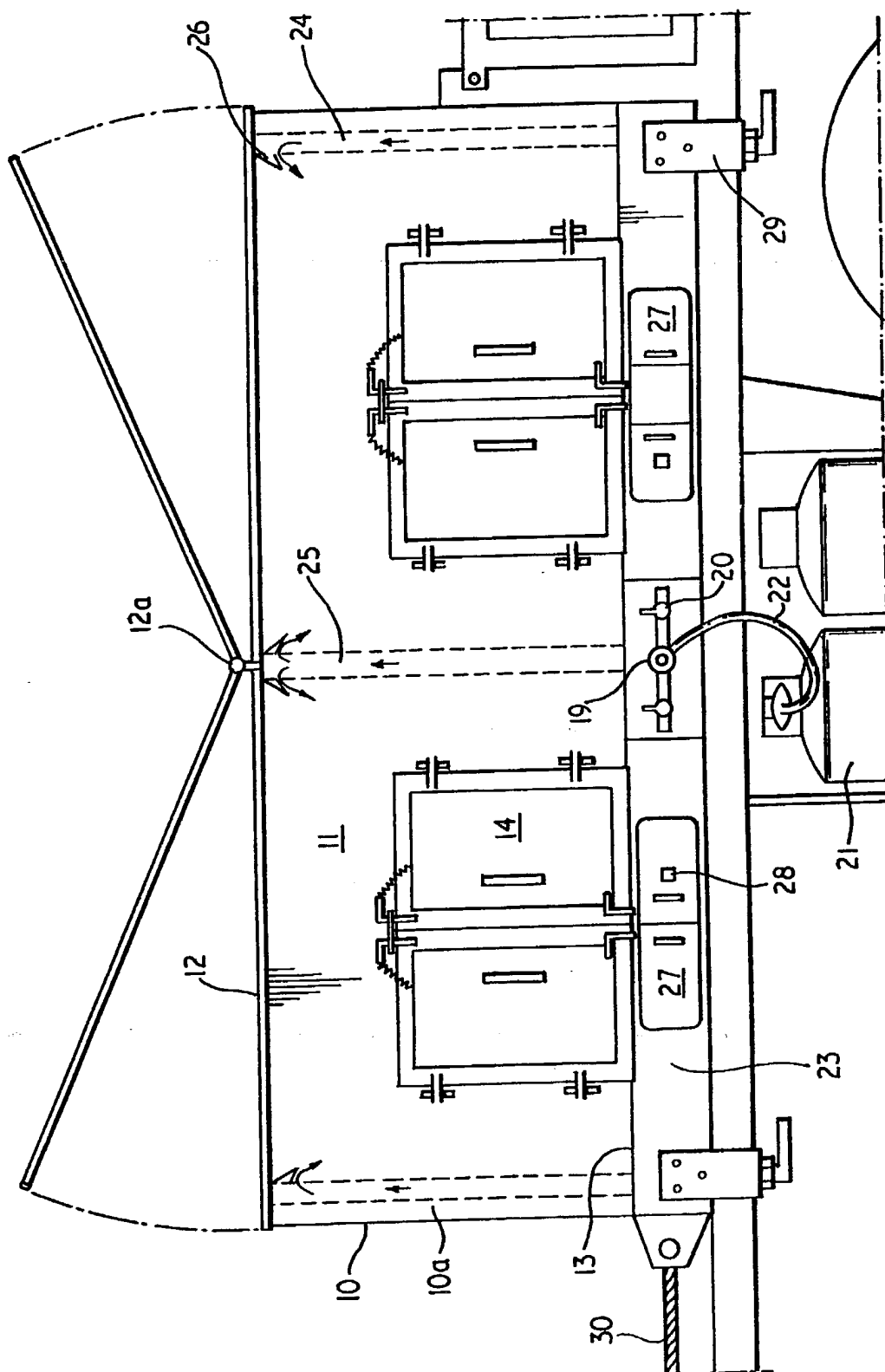


FIG. 1.

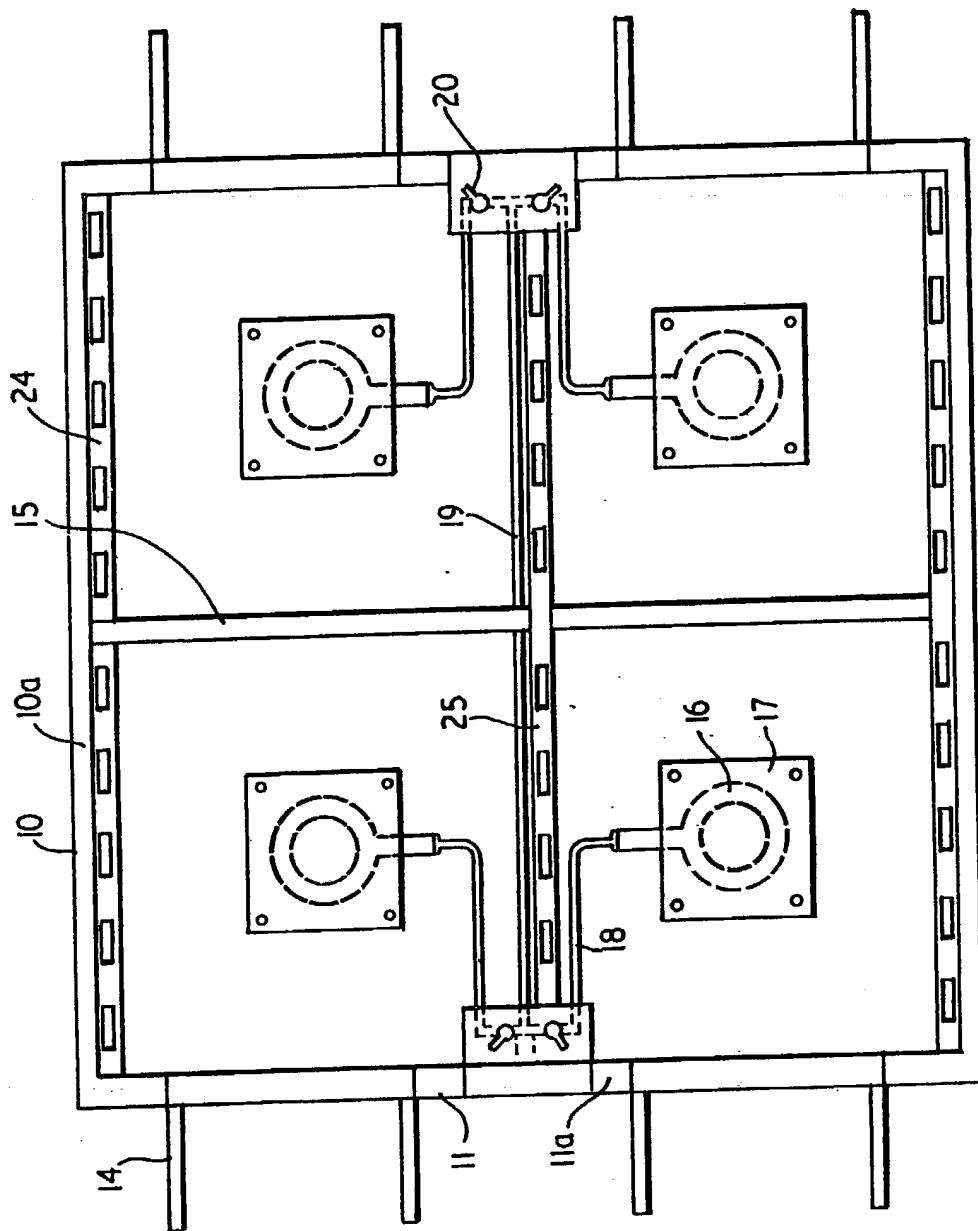


FIG. 2.

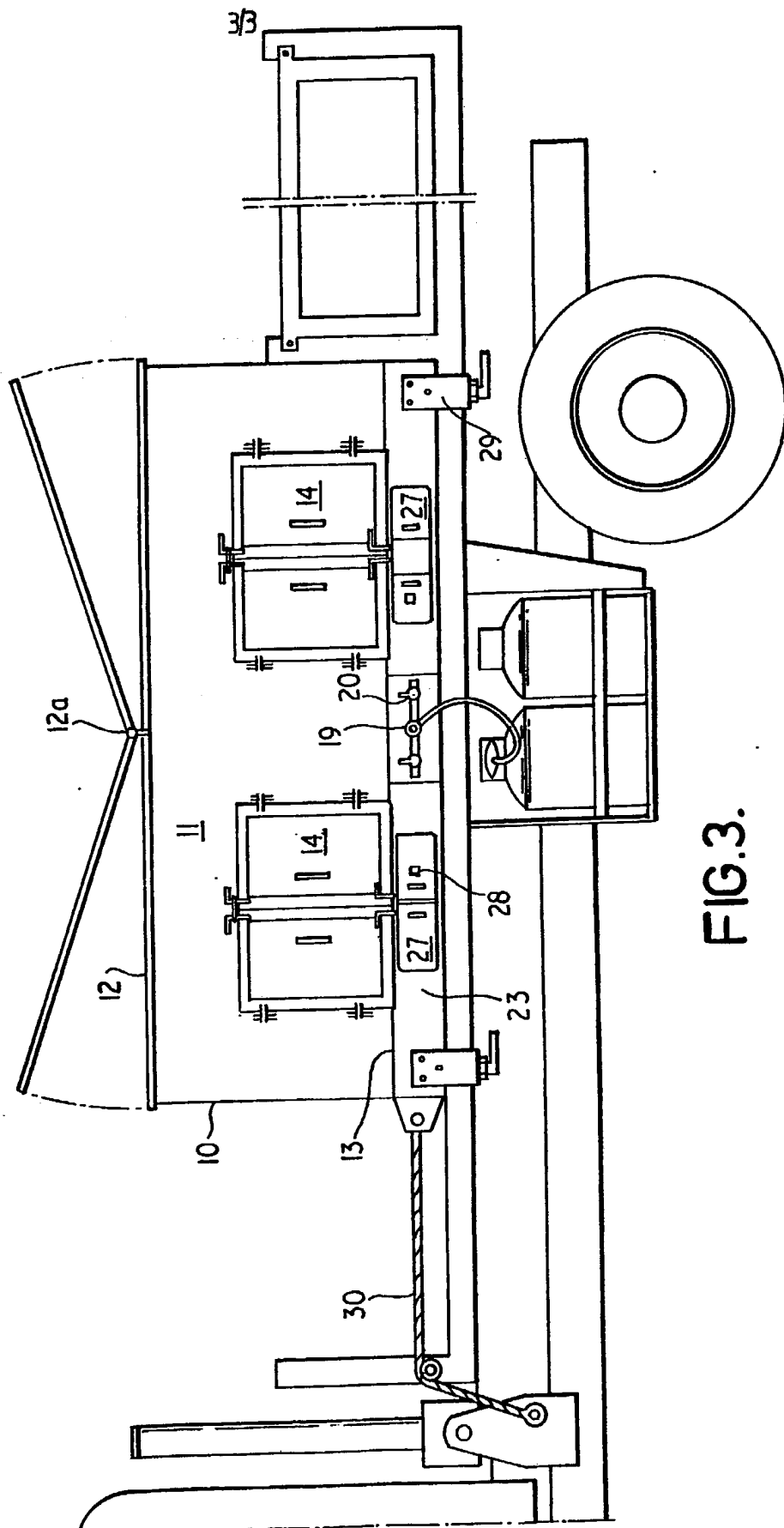


FIG. 3.

SPECIFICATION

Heated storage container

This invention relates to a heated storage container. More particularly, it relates to such a container for locating on the plank bed of a truck or trailer, and for containing materials, such as asphalt, tarmacadam or bitumen-macadam, for patching roads, footpaths and the like.

After carrying out repairs to underground pipes, cables, etc. or carrying out general repairs to roads, footpaths etc. it is required to permanently reinstate the surface to at least its original condition. At the present time, the required materials, such as hot asphalt or bituminous macadam, are normally collected daily on the plank bed of a truck or trailer from the suppliers. Very often material is dumped during or at the end of the working day, because loss of temperature has made it unsuitable for use. Heating the material to maintain its temperature at the work site is not really practical because such material cannot then be readily transported to a different work site. Furthermore, it is necessary to employ two trucks for each work site, one to transport the basic repair equipment, and the other to carry the material for reinstatement.

An object of the present invention is to overcome the above disadvantages and make it possible to employ only a single truck at each repair site, and to save labour and materials.

The present invention provides a storage container comprising a housing adapted to be located on the plank bed of a truck or trailer and at least one heater located beneath the housing for heating material contained in the housing.

The housing preferably has a removable or hinged roofing to allow material to be placed in the housing. The housing may be subdivided by internal partitions into a plurality of separate compartments, preferably two or four compartments, for containing different respective materials. This may be achieved by slidably mounted members which are removable upwardly when the roof is removed or hinged upwardly.

A separately controllable heater may be provided beneath each compartment and preferably each heater comprises a gas burner. Thus, for example, the separate compartments may respectively contain asphalt, tarmacadam and bitumen-macadam, and each heater separately controlled to provide the required temperature in each compartment.

One or more heating ducts may be provided extending upwardly beside each compartment to transport hot air from each gas burner and openings may be provided into the compartments from such ducts towards the top of the compartments. The housing may be divided into two by such a duct which extends across the housing. The ends of the housing may comprise such ducts extending across the housing.

A door or doors may be provided in the sides of the housing for each compartment, to permit removal of material from within the compartment.

Such doors may be hinged, slidable or in the form of plates clamped over openings in the sides of the housing.

Reference is now made to the accompanying drawings illustrating a preferred embodiment of the invention, in which:

Figure 1 is a side elevational view of a heated storage container,

Figure 2 is a diagrammatic cutaway plan view of the container of Figure 1, and

Figure 3 is a side elevational view showing the location of the container on the plank bed of a truck.

As shown in Figure 1, a heated storage container comprises a housing formed of two ends 10 provided with insulation 10a, two sides 11 provided with insulation 11a (see Figure 2), a roof 12 and a base 13.

The roof 12 comprises a central hinge 12a extending transversely between the sides 11 and two-hinged section extending to the respective ends 10. The hinged sections are opened upwardly when material is to be placed in the housing. The whole roof 12 may be removable.

Each side 11 has two double doors 14 provided therein. These doors are hinged and open outwardly to permit access to within the housing for removal of material therefrom. Of course, the doors could alternatively be sliding doors or simply plates which are clamped to the sides 11. A drip tray is provided beneath each door 14.

As shown in Figure 2, the housing is divided lengthwise by a sheet form internal partition 15 and transversely by a heating duct (described in more detail below). The housing is thereby divided into four separate compartments. The partition 15 is slidably located in channel members carried on the internal faces of the ends 10 and is removable upwardly when the roof 12 is removed. The housing would then be divided into two compartments. Although the heating duct which serves as a transverse dividing member is generally fixed, it can of course be dispensed with if such a dividing member is not desired.

Each of the four compartments has a gas burner 16 located under the base 13 with a deflector plate 17 located thereabove. A gas conduit 18 extends from each burner 16 to a supply conduit 19, the supply to each separate gas conduit 18 being controlled by a respective valve 20. A gas container 21 is connected to the supply conduit 19 by a flexible hose 22. The gas container, together with a spare container, can be accommodated in a basket under the plank bed of the truck.

The gas burners are accommodated in a heating chamber 23 beneath the base 13 of the container. Heating ducts 24 extend upwardly from the heating chamber on the inside walls of the container ends 10 and a central transverse heating duct 25 also extends upwardly from the heating chamber, the latter heating duct also serving as a transverse dividing member as described above. The ducts 24, 25 each have the top closed and have openings 26 (provided with

heat flaps) spaced therealong adjacent the top. Hot air thus passes from the heating chamber, through the heating ducts and through the openings into the housing. Adjustable vents (not shown) can be provided in the roof 12 or in the side walls 11 above the doors 14. Sets of lower doors 27 provide access to the heating chamber and the gas burners, and each such door is provided with an inspection eye 28 of heat resistant glass.

Figure 3 shows the container accommodated on the plank bed of a truck. The container is provided with crane hooks at suitable locations to enable it to be loaded on and off the plank bed. A set of four clamps 29, two on each side, locate the container on the plank bed. A pair of cables 30, one on each side, connects the container to the front tipper ramp brackets 31. This provides a mechanism for repositioning the container forward on the plank bed. The clamps 29 are released, the tipping gear is operated causing the cable 30 to pull the container forward on the plank bed, the clamps are tightened and the tipping gear is then lowered. The container can be moved rearwards by reversing this process.

The container can, of course, be made in various sizes to suit the type of vehicle or trailer which is to carry it. It is able to maintain the materials at a workable temperature throughout the day, thus saving on waste. Some grades of bituminous macadam can be reheated from cold, thus eliminating collection time and waste. For example, the material can be collected at the end of one day, heated overnight in the container to a suitable temperature, and then be ready for immediate working the next day. The tools etc. required for the repair work can also be carried on the plank bed of the truck, or in a separate trailer, and there is therefore only the need for one truck journey to each working site.

By rearranging the internal partitions, up to four different types of material can be carried at any one time in various quantities. The configuration of gas pipes and valves enables the heat to be fed independently to various parts of the container, so that as material is used from each suction the respective gas supply can be turned off, thus

saving fuel.

The container is readily removable from the plank bed, thus releasing the vehicle for other duties if necessary. When fitted to a vehicle, it is normally placed in a position which gives maximum payload without overloading the axles. As work proceeds, excavated spoil from repairs can be placed into the rear space on the vehicle, and at the same time bituminous material is being taken from the container. During the day, to avoid overloading the rear axle, the container can if required be repositioned towards the front, as explained above, thus making further room available for surplus spoil and maximising the carrying capacity of the vehicle.

CLAIMS

1. A storage container comprising a housing adapted to be located on the plank bed of a truck or trailer and at least one heater located beneath the housing for heating material contained in the housing.

2. A storage container as claimed in Claim 1, wherein the housing has a removable or hinged roofing to allow material to be placed in the housing.

3. A storage container as claimed in Claim 1 or 2, wherein the housing is subdivided by internal partitions into a plurality of separate compartments for containing different respective materials.

4. A storage container as claimed in Claim 3, wherein a separately controllable heater is provided for each compartment.

5. A storage container as claimed in Claim 3 or 4, wherein a door is provided to permit removal of material from within the compartment.

6. A storage container as claimed in Claim 1, substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

7. A truck or trailer provided on its plank bed with a storage container as claimed in any previous claim, and including means for altering the position of the storage container to vary the distribution of load on the plank bed.

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ASSIGNEE-INFORMATION:

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ABSTRACT:

A heated storage container particularly for containing materials, such as asphalt or tarmacadam, for patching roads, footpaths etc. The storage container comprises a housing (10, 11, 12, 13) adapted to be located on the plank bed of a truck or trailer and at least one heater located beneath the housing for heating material contained in the housing. <IMAGE>